

Preliminary Amendment of U.S. National Stage for International Application
PCT/US00/24930 filed September 12, 2000

AB
preferably is not greater than, with increasing preference in the order given, 50, 40, 38, or 36 percent by weight of the total non-volatiles content. If the non-volatiles content of component (b) is less than 20 percent by weight relative to 100 percent by weight of the total non-volatiles content, the adhesion of the coating film drops, as is undesirable.

On the other hand, if the non-volatiles content of component (b) exceeds 60 percent by weight, the relative proportion of component (a) in the coating film drops, so that the corrosion resistance drops, as is also undesirable. Good practical results are facilitated by a concentration within the more preferred ranges.

Amend the paragraph beginning at line 32 on page 4 to read as follows:

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Component (c) is selected from the group consisting of plastic pigments, phosphorus-containing anti-rust pigments, and colloidal-sized silica (including fumed silica), alumina, zirconia, and titania. It is more preferable if any silica, alumina, zirconia, or titania used for component (c) has in fact been prepared as stable colloid dispersed in a fluid continuous phase. If the mean particle size of component (c) exceeds 1.0 μm , some of the particles are likely to protrude from the surface of the coating film; as a result, moisture may easily invade the surface of the material from the particle interfaces, thus causing a drop in corrosion resistance and adhesion.

Accordingly, such a large mean particle size is undesirable.

Amend line 1 on page 20 to read as follows:

What is claimed is:

IN THE CLAIMS:

Amend claims 1, 2 and 9 to read as follows:

AS
1. (Amended) An aqueous liquid composition of matter suitable for treating a metal substrate comprising water and the following components:

- (a) from 20 to 70 percent by weight of non-volatile constituents of a component selected from a group consisting of urethane resins, epoxy resins, and acrylic resins;
- (b) from 10 to 60 percent by weight of non-volatile constituents of a component of

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AS

silane coupling agent; and

(c) from 10 to 40 percent by weight of a component of dispersed solid non-volatile particles with a mean particle size of 1.0 μm or less,

all of the percentage values specified above for components (a), (b), and (c) being percentages of only the non-volatiles content of said aqueous liquid composition.

2. (Amended) A liquid composition according to claim 1, wherein component (c) is selected from the group consisting of plastic pigments, phosphorus-containing anti-rust pigments, and colloidal-sized silica, alumina, zirconia, and titania.

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9. (Amended) An article of manufacture comprising a coated metal surface formed by a process according to claim 5.

Enter the following new claims 10-12:

A7

10. (New) An aqueous liquid composition of matter comprising water and the following components:

(a) from 30 to 60 percent by weight of non-volatile constituents of a component selected from a group consisting of urethane resins, epoxy resins, and acrylic resins;

(b) from 22 to 38 percent by weight of non-volatile constituents of a component of silane coupling agent; and

(c) from 10 to 35 percent by weight of a component of dispersed solid non-volatile particles with a mean particle size of 1.0 μm or less, said particles being selected from the group consisting of plastic pigments, phosphorus-containing anti-rust pigments and colloidal-sized silica, alumina, zirconia, and titania, all of the percentage values specified above for components (a), (b), and (c) being percentages of only the non-volatiles content of said aqueous liquid composition and said aqueous liquid composition having a pH in a range from 2 to 10.

11. (New) A process for making a coated metal substrate, said process comprising operations of:

(I) forming a layer of a liquid composition according to claim 10 over at least one of a metallic surface of said metal substrate, a surface formed by chemical plating